



**Air Quality
PERMIT TO CONSTRUCT
State of Idaho
Department of Environmental Quality**

PERMIT No.: P-2007.0051
FACILITY ID No.: 017-00037
AQCR: 63 **CLASS:** A
SIC: 4922 **ZONE:** 11
UTM COORDINATE (km): 538.1, 5364.6

1. PERMITTEE

TransCanada GTN System

2. PROJECT

PTC Revision - Unit 4A natural gas-fired turbine – Compressor Station No. 4

3. MAILING ADDRESS

534 E. Trent Ave., Suite 100

CITY

Spokane

STATE

WA

ZIP

99202

4. FACILITY CONTACT

Stanley D. Barry

TITLE

Compliance Specialist

TELEPHONE

(509) 533-2841

5. RESPONSIBLE OFFICIAL

Ross Parker

TITLE

Regional Director

TELEPHONE

(503) 833-4210

6. EXACT PLANT LOCATION

237 Samuels Road, Samuels, Idaho 83864

COUNTY

Bonner

7. GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS

Natural gas pipeline compressor station

8. PERMIT AUTHORITY

This permit is issued according to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.200 through 228, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality (DEQ) or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes in design, equipment or operations may be considered a modification. Modifications are subject to DEQ review in accordance with IDAPA 58.01.01.200 through 228 of the Rules for the Control of Air Pollution in Idaho.

**JONATHAN PETTIT, PERMIT WRITER
DEPARTMENT OF ENVIRONMENTAL QUALITY**

DATE MODIFIED/REVISED:

DRAFT

DATE ISSUED:

March 10, 2005

**MIKE SIMON, STATIONARY SOURCE PROGRAM
MANAGER
DEPARTMENT OF ENVIRONMENTAL QUALITY**

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Acronyms, Units, and Chemical Nomenclature

AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
BACT	Best Available Control Technology
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
gr/dscf	grains per dry standard cubic feet
GTN	Gas Transmission Northwest
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/MMscf	pound per million standard cubic feet
lb/hr	pound per hour
MMBtu	million British thermal units
NGG	natural gas generator
NSPS	National Source Performance Standards
NO _x	nitrogen oxides
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
scf/yr	standard cubic feet per year
SIC	Standard Industrial Classification
SO ₂	sulfur dioxide
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

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Location:	Samuels, Idaho	

1. PERMIT TO CONSTRUCT SCOPE

Purpose

- 1.1 The purpose of this permit is to revise PTC No. P-040117 issued March 10, 2005.
- 1.2 Those permit conditions that have been revised by this permitting action are identified by a date citation located directly under the permit condition and on the right hand margin.
- 1.3 This PTC replaces PTC No. P-040117, issued March 10, 2005, the terms and conditions of which shall no longer apply.

Regulated Sources

- 1.4 Table 1.1 lists all sources of regulated emissions in this PTC.

Table 1.1 SUMMARY OF REGULATED SOURCES

Permit Condition	Source Description	Emissions Control
2	SoLoNO _x TM gas turbine Unit 4A	Dry low-NO _x ^a combustors

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2. SOLONOX™ GAS TURBINE UNIT 4A

2.1 Process Description

The Unit 4A gas turbine will power a new natural gas pipeline compressor at the Samuels station. The station is one of 12 compressor stations along TransCanada GTN System's dual mainline system running from Canada through Idaho, Washington, and Oregon to California.

2.2 Control Description

Emissions from Unit 4A are controlled by dry low-NO_x combustion. Dry low-NO_x combustion control is achieved by reducing peak flame temperature and employing lean pre-mixed combustion.

Emissions Limits

2.3 Emissions Limits

Particulate matter (PM), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM₁₀), sulfur dioxide (SO₂), NO_x, carbon monoxide (CO), and volatile organic compound (VOC) emissions from the Unit 4A stack shall not exceed any corresponding emissions rate limits listed in the following Table:

Table 2.1 UNIT 4A STACK EMISSIONS LIMITS

Gas Transmission Northwest, Samuels, Idaho										
Emissions Limits ^a										
Source	PM/ PM ₁₀		SO ₂		NO _x		VOC		CO	
	lb per MMscf ^b	T/yr ^c	lb per MMscf	T/yr	lb per MMscf	T/yr	lb per MMscf	T/yr	lb per MMscf	T/yr
SoLoNO _x ™ gas turbine Unit 4A	6.73	4.21	2.86	1.79	164.4	85.4	2.14	1.34	119.6	74.8
Non-SoLoNO _x mode	-	-	-	-	NA ^e		-	-	-	-
In SoLoNO _x mode with ambient temperatures ^f less than 0°F	-	-	-	-	42.0 ppm ^g		-	-	-	-
In SoLoNO _x mode with ambient temperatures ^f greater than or equal to 0°F	-	-	-	-	25.0 ppm ^g		-	-	-	-

^a As determined by a pollutant-specific EPA reference method, DEQ-approved alternative, or as determined by DEQ's emissions estimation methods used in this permit analysis.

^b Pounds per million standard cubic feet

^c Tons per year as determined by multiplying the actual or allowable (if actual is not available) lb/hr emissions rate by the allowable hours per year that the process(es) may operate(s), or by actual annual production rates.

^d NGG-Gas Generator Speed

^e Unit 4A can only be operated in non-SoLoNO_x mode during startup, shutdown, and load change.

^f Ambient temperature is measured by a temperature probe at the air inlet for the gas turbine.

^g Parts per million

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2.4 **Opacity Limit**

Emissions from the Unit 4A gas turbine stack, any other stack, vent, or functionally equivalent opening associated with Unit 4A, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625, Rules for the Control of Air Pollution in Idaho. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

2.5 **Grain-loading Requirement for Fuel-burning Equipment**

Particulate emissions from the Unit 4A gas turbine stack shall not exceed a concentration of 0.015 grains per dry standard cubic feet (gr/dscf) corrected to 3% oxygen.

Operating Requirements

2.6 **Normal Operating Range**

The Unit 4A gas turbine shall only operate in non-SoLoNO_x mode during periods of startup, shutdown, and load change.

2.7 **Fuel Throughput Limit**

The maximum annual fuel throughput of the Unit 4A gas turbine shall not exceed 1.251 billion standard cubic feet per any consecutive 12-month period (1,251,000,000 scf/yr).

2.8 **Fuel Sulfur Content**

No fuel containing sulfur in excess of 0.8% by weight shall be burned in the Unit 4A gas turbine.

2.9 **Reasonable Control of Fugitive Emissions**

All reasonable precautions shall be taken to prevent PM from becoming airborne as required in IDAPA 58.01.01.651. In determining what is reasonable, considerations will be given to factors such as the proximity of dust-emitting operations to human habitations and/or activities and atmospheric conditions that might affect the movement of PM. Some of the reasonable precautions include, but are not limited to, the following:

- Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of lands.
- Application, where practical, of asphalt, water or suitable chemicals to, or covering of dirt roads, material stockpiles, and other surfaces which can create dust.
- Installation and use, where practical, of hoods, fans and fabric filters or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations.
- Covering, where practical, of open-bodied trucks transporting materials likely to give rise to airborne dusts.
- Where practical, paving of roadways and their maintenance in a clean condition.

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- Prompt removal, where practical, of earth or other stored material from streets.

2.10 Air Pollution Emergency Rules

The permittee shall comply with the Air Pollution Emergency Rules in IDAPA 58.01.01.550-562.

Monitoring and Recordkeeping Requirements

2.11 Performance Testing

The permittee may satisfy the requirements of Permit Conditions 2.12 and 2.13 concurrently. The initial performance test, and any subsequent performance tests conducted to demonstrate compliance, shall be performed in accordance with IDAPA 58.01.01.157, General Provision 6 of this permit and the following conditions:

- NSPS Subpart GG Requirements

Within 60 days after achieving the maximum production rate at which the source will operate, but not later than 180 days after initial startup, the permittee shall conduct performance tests to satisfy the requirements listed in 40 CFR 60.8 and 40 CFR 60.335.

- BACT Demonstration

Within 60 days after achieving the maximum production rate at which the source will operate, but not later than 180 days after initial startup, the permittee shall conduct performance tests to verify the emission factors for NO_x and CO. Emission factor testing shall be performed at four load points in the normal operating range of the gas turbine including the minimum load in the operating range and the maximum achievable load.

- Fuel Throughput

The throughput of natural gas in standard cubic feet per hour (scf/hr) to Unit 4A shall be recorded during each performance test.

- Performance Testing Frequency

A second emissions test shall be conducted within 24 months of the initial performance test to demonstrate continued compliance with the emission limits for NO_x and CO listed in the appendix. Emissions testing to demonstrate compliance shall be conducted at least once every 60 months thereafter.

2.12 Monitor Operating Parameters

A compilation of the most recent two years of records shall be kept onsite, and shall be made available to DEQ representatives upon request. The permittee shall monitor and record the following information:

- Fuel Throughput and Operating Range

The permittee shall monitor and record the throughput of natural gas combusted in Unit 4A and the range of gas generator speed (% NGG), including periods of startup, shutdown, and load change, on a consecutive 12-month period basis. A compilation of the most recent two years of data shall be kept onsite and shall be made available to DEQ representatives upon request.

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2.13 Sulfur and Nitrogen Content Monitoring – New Source Performance Standard Requirements

The permittee shall demonstrate that the fuel combusted in the Unit 4a turbine engines meets the definition of natural gas in 40 CFR 60.331(u). The permittee shall use one of the following sources of information to make the required demonstration:

- The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or
- Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.
- No monitoring of fuel nitrogen content is required so long as the permittee does not claim an allowance for fuel bound nitrogen as described in 40 CFR 60.332(a), and so long as natural gas is the fuel fired in the turbine engines.

2.14 Operations and Maintenance Manual Requirements

Within 60 days after startup, the permittee shall have developed an Operations and Maintenance (O&M) manual for Unit 4A which describes the procedures that will be followed to comply with General Provision 2 and the air pollution control device manufacturer specifications. This Manual shall remain onsite at all times and shall be made available to DEQ representatives upon request.

2.15 Fugitive Dust Complaint Response

The permittee shall maintain records of all fugitive dust complaints received. The permittee shall take appropriate corrective action within 24 hours after receipt of a valid complaint. The records shall, at a minimum, include the date each complaint was received and a description of the following: the complaint, the permittees assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Reporting Requirements

2.16 Performance Test Protocol

The permittee is encouraged to submit a test protocol for the performance test required in Permit Condition 2.11 to DEQ for approval at least 30 days prior to the test days.

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3. PERMIT TO CONSTRUCT GENERAL PROVISIONS

General Compliance

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq.
[Idaho Code §39-101, et seq.]
2. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
[IDAPA 58.01.01.211, 5/1/94]
3. Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules and regulations.
[IDAPA 58.01.01.212.01, 5/1/94]

Inspection and Entry

4. Upon presentation of credentials, the permittee shall allow DEQ or an authorized representative of DEQ to do the following:
 - a. Enter upon the permittee's premises where an emissions source is located or emissions related activity is conducted, or where records are kept under conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d. As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.**[Idaho Code §39-108]**

Construction and Operation Notification

5. The permittee shall furnish DEQ written notifications as follows in accordance with IDAPA 58.01.01.211:
 - a. A notification of the date of initiation of construction, within five working days after occurrence;

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- b. A notification of the date of any suspension of construction, if such suspension lasts for one year or more;
- c. A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date;
- d. A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date; and
- e. A notification of the initial date of achieving the maximum production rate, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211, 5/1/94]

Performance Testing

- 6. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/00]

Monitoring and Recordkeeping

- 7. The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Records of monitoring information shall include, but not be limited to the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211, 5/1/94]

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Excess Emissions

8. The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets and breakdowns.

[IDAPA 58.01.01.130-136, 4/5/00]

Certification

9. All documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

False Statements

10. No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit, or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

Tampering

11. No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Transferability

12. This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06.

[IDAPA 58.01.01.209.06, 4/11/06]

Severability

13. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.